San Francisco Bay Nutrients

San Francisco Bay Stakeholder Advisory Group (SF Bay SAG) Meeting

March 29, 2012, 9:30 am-2:00 pm

Agenda

- Introductions, goals, logistics
- Updates and progress since last meeting
- Draft Nutrient Strategy
  - Overview
  - Feedback on process, general content, and next steps
- Lunch (on your own)
- Overview of funded projects
  - Conceptual model
  - Loading studies and effluent characterization
  - Phytoplankton NNE
  - Suisun Bay
- Wrap up and next steps

Context for Today's Meeting: Developing Nutrient Objectives for SF Bay

- In 2008, SWRCB staff initiated a project to develop NNE framework for estuaries
- San Francisco Bay identified as a pilot for framework application
  - Identified as a high priority 2009 Triennial Review
  - Created SF Bay SAG in October 2010
  - Completed draft candidate NNE indicators literature review
    - Revised based on feedback from SAG and Technical Advisors
    - Discussed developing a work plan or strategy to guide next steps

Meeting Goals

- Review status of NNE project
- Provide update on progress on NNE-related issues since last meeting
- Discuss process for developing a nutrient strategy
- Introduce goals, objectives, and technical approach of recently funded projects

Literature Review and Data Gaps Analysis [McKee et al 2011]

- Recommends a suite of indicators to assess eutrophication/nutrient overenrichment
- Assesses data availability and status/trends in eutrophication
- Evaluates knowledge about nutrient loads
- Summarizes data gaps
- Recommends next steps

Literature Review and Data Gaps Analysis [McKee et al 2011]

Recommended next steps

- Subtidal habitat Indicators
  - —Develop NNE assessment framework
  - —Update science supporting DO objectives
  - —Monitor HAB toxin concentrations
  - —Evaluate ammonium and primary productivity
- Quantify nutrient loads
  - —Terrestrial loads from Delta
  - —Characterize effluent data
  - —Stormwater – synthesize available data, scope data needs for modeling
  - —Ocean Exchange – design sampling program for flux at GG boundary

Literature Review and Data Gaps Analysis [McKee et al 2011]

Recommended next steps

- Develop load-response models
  - Air, oceanic and watershed loading models
  - Estuary water quality model
  - Scoping models
    - Coarse nutrient budgets
    - Timing and magnitude of sources, sinks and transformation pathways
  - Model review

Literature Review and Data Gaps Analysis [McKee et al 2011]

Recommended next steps

- Develop locally-sponsored monitoring program
  - Develop monitoring strategy
  - Build on USGS research program and other efforts
  - Link to assessment framework
  - Identify gaps in existing monitoring
  - Apply to status and trends determination
- Coordinate with Delta on nutrient management

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Progress Since Last Meeting

- Water Board/RMP draft elements of nutrient strategy
- RMP funded nutrient management workshop June 2011
- SFEI hired a staff person for project (David Senn)
- Drafted strawman nutrient strategy
- Secured funding for some priority work items
- Identified need to broaden effort and build Bay nutrient program
- Revisit organizational structure

RMP Nutrient Management Workshop

- Workshop of national and local experts on nutrients science *sfei.org*
- Regional strategy proposed
  - Goal: wise use of limited resources to inform management decisions
  - Think broadly to multi-year plan of studies
  - Identified need for coordination and support
- Day 2 – Local science experts
  - Initiated discussion on monitoring
  - Identified need for conceptual model development

Nutrient Strategy: Context

- Builds on clear statement of management decisions and goals
- Overarching work plan needed to guide project activities
- Strategy should represent consensus on science & policy work elements needed to manage nutrients
- Results in blueprint for decision-making

We will be devoting an hour to this topic today

Strategy Management Decisions

- Nutrient objectives for the Bay
- Revise DO objectives
- Develop and fund a nutrient monitoring program
- Assess impairment and 303(d) listing decisions
- Determine requirements in discharger permits
- Additional data collection efforts/special studies
- Achieve load reductions

High Priority Projects Underway

- Conceptual model, scenario development & summary of existing loads (RMP, $80K)
- Phytoplankton NNE (SWRCB, $115K)
- Suisun Bay Studies (SWRCB, SFWCA, CCCSD)
- Nutrient strategy support/modeling/Suisun Bay Studies (BACWA, $300 K)
- Effluent characterization

2012 Timeline

- Nutrient Strategy — November
- Conceptual Model — May
- Assessment Framework
  - Nutrient Objectives 2012-2014
  - Dissolved Oxygen Synthesis — May
- Suisun Bay Studies — March-May
  - SWAMP Study 2011-2012
  - Collaborative Studies 2012-2014 — September
- Numeric Model Development
  - Work Plan — June
  - Modeling Strategy — August
- Loading Studies
  - Effluent Characterization 2012-2014 — April
  - Watershed Loadings - Data Integration

Anticipated Stakeholder Work

- Process for working together
- Strategy refinement – funding priorities
- Scope work elements identified in strategy
- Provide input - workplans
- Technical studies and model development
- Assessment framework development
- Input into monitoring needs
- Potential stakeholder lead on work elements

Revisiting NNE Organizational Structure

- NNE organization part of larger statewide process
- Need for flexible organization to accommodate local culture
  - Different funding agencies, different procedures and expectations for communication
  - Would like a manageable open/transparent process
- Joint fact-finding
- Role of local facilitator – neutral 3rd party

NNE Project Organization- SF Bay
Current structure

SF Bay SAG

State Water Resources Control Board (SWRCB)

SF RWQCB

STRTAG

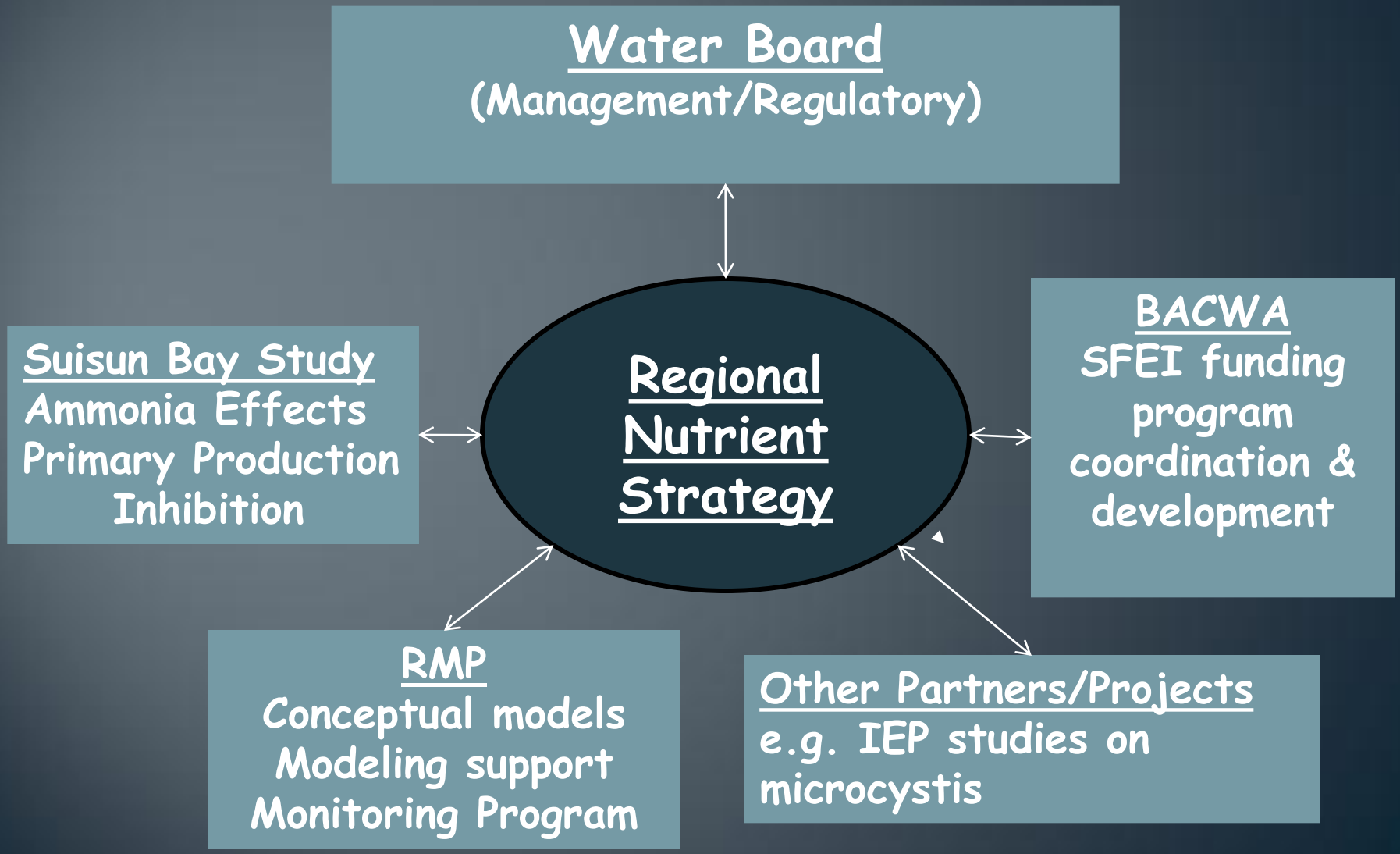
SF Bay Technical Team

Science Advisory Board (SAB)

Local Facilitator

- Local facilitator preferable
- Facilitator role
  - Clarify stakeholder concerns
  - Ensure all stakeholder interests represented
  - Help develop process for working together - reorganization
  - Help identify levels of agreement
- Conduct stakeholder assessment
- Facilitate meetings
- Plan to solicit bids and compare

Nutrient Program Organization – Projects undertaken with Strategy as integrator



Nutrient Program Organization – Working ideas

- Options for SAG role
  - Information exchange
  - Create a technical subcomittee
    - Provide technical input on workplans etc
    - Review work products
  - Workgroups – RMP as example
- Explore reorganization – while work continues
- Role of technical experts
- Outside peer review

Additional Comments? Concerns?

We want to hear your feedback

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